PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Docket No: Q83028
Alban COUTURIER	
Appln. No.: 10/505,227	Group Art Unit: 2419
Confirmation No.: 2136	Examiner: Andrew W CHRISS

Filed: August 20, 2004

For: QUALITY OF SERVICE REQUEST CORRELATION

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

Table of Contents

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Alcatel of Paris France, the assignee. The assignment was recorded on November 9, 2004, at Reel 016412, Frame 0365.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant, Appellant's legal representative, or the assignee that will directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-14 are all the claims pending in the application by the subject of this Appeal.

Claims 1, 5-7, 9, 12 and 14 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Oosthoek *et al.* (US Patent Pub. No. 2002/0156599; hereinafter "Oosthoek").

Claims 2-4, 10, and 11 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Oosthoek, in view of Bolding *et al.* (US Patent No. 7,272,651; hereinafter "Bolding").

Claims 8 and 13 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Oosthoek, in view of Mohaban *et al.* (US Patent No. 6,788,647; hereinafter "Mohaban").

Claims 1-14 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly omitting essential structural cooperative relationships of elements.

No other ground of rejection or objection is currently pending.

A copy of the pending claims on appeal is set forth in the attached Appendix.

IV. STATUS OF AMENDMENTS

With the filing of this Brief, all Amendments have been entered and considered by the Examiner.

The Appendix included with this Brief sets forth the claims involved in the appeal and reflects all of the claim amendments that have been entered by the Examiner.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

In general, Appellant's invention relates to data networks, and, more specifically, the phase of creating sessions and managing quality of service in telecommunication networks and especially networks providing different kinds of services, for example transmission of voice, video, data, etc. Such a network may be based on protocols of the Transport Control Protocol/Internet Protocol (TCP/IP) family, for example. (Specification, P. 1, Lns. 2-16).

In such networks, data is sent in the form of microflows between two points in the network. These microflows comprise a series of related packets. These packets share the same 5-tuple: protocol used, sender address and port, and the addressee address and port. (Specification, P. 1, Lns. 11-20).

Certain services require the explicit reservation of resources within the network. This reservation of resources guarantees a quality of service for the service session. Devices throughout the network are controlled in order to make these reservations of resources. In general, a particular network control device is responsible for controlling the devices to carry out the reservation of resources. (Specification, P. 1, Lns. 11-34).

The controlling network device operates in two phases: first, the controlling network device determines whether the requested session for the microflow is authorized; second, if the request is authorized, the controlling network device controls the devices of the network to enable correct transmission of the packets of the microflow. (Specification, P. 1, Ln. 31 to P. 2, Ln. 5).

In general, the reservation of resources is performed on a per microflow basis. In other words, the reservation applies to a particular microflow from a device A to a device B. (Specification, P. 2, Lns. 11-20).

Appellant recognized that, in some services, for example videophone service between a party A and a party B, a plurality of microflows are implied by any given session. In particular, a video phone service between parties A and B necessitates **four microflows** of packets:

a microflow from A to B transporting voice data,

a microflow from A to B transporting video data,

a return microflow from B to A transporting voice data, and

a return microflow from B to A transporting video data.

As such, the network control system must determine the path four times and trigger the network element control process four times. (Specification, P. 2, Lns. 11-20).

The object of the disclosed invention is to avoid this repetition of tasks to be effected by the network control system. (Specification, P. 2, Lns. 20-21).

To this end, the exemplary embodiments of the claimed invention provide a system for controlling a data network in which a network control system receives the quality of service requests corresponding to a plurality of microflows of which two or more are related microflows, correlates the quality of service requests that correspond to related microflows, and controls the network devices necessary to give the requested quality of service such that said control is performed only once for all the correlated quality of service requests. (Specification, P. 2, Lns. 22-28).

Figure 1 shows a data network which comprises an exemplary embodiment of the claimed invention. A terminal T_A wishes to set up a service session with a terminal T_B via the data network N. This service session is associated with at least the transmission of one or more data microflows F from the terminal T_A. To enable the reservation of resources for each data microflow, a resource reservation request is transmitted to the network control system S responsible for managing the data network N. (Specification, P. 5, Lns. 1-7).

For example, two microflows of packets may be associated with the same service session, namely one microflow of packets transporting voice and one microflow of packets transporting video. The control system S of Fig. 1 comprises means for correlating resource reservation requests transmitted to it. As discussed above, correlation may be effected in particular by comparing the 5-tuples identifying the two microflows. It may more particularly be effected by comparing the IP addresses of the sender and the addressee; if these are identical, then the two microflows are considered to be correlated. (Specification, P. 3, Ln. 32 to P. 4, Ln. 17).

In another exemplary embodiment of the claimed invention, the control system S may also anticipate acceptance of service session set-up and that, if the service session is actually set up, then there will be two additional **return** microflows of packets. Specifically, there will be one microflow of packets transporting voice data emanating **from** the terminal $\mathbf{T_B}$ and terminating at the terminal $\mathbf{T_A}$ and one microflow of packets transporting video data emanating **from** terminal $\mathbf{T_B}$ and terminating at terminal $\mathbf{T_A}$ (the original microflows emanated from terminal T_A **to** T_B). (Specification, P. 4, Lns. 8-15).

Since network must be setup for these **return** microflows of packets, the control system S may be adapted to anticipate this and to control the network elements for the return microflows

at the same time as the initial microflows, i.e., controlling the network elements only once for all four microflows. This is particularly beneficial when the control system considers only one domain, and thus relatively certain that the return microflows will take the same path. However, the invention is not limited to such an embodiment. In the context of a multidomain network, each domain may be associated with an admission controller. In this case, there may be provision for the admission controllers to communicate with each other. The first admission controller, i.e. the admission controller of the control system that received the quality of service request corresponding to correlated microflows, may then communicate that single request to the other admission controllers concerned. The admission controllers then have means for communicating the single resource reservation request to the network devices associated with other domains of the data network. (Specification, P. 4, Ln. 16-20 and P. 6, Ln. 32 to P. 7, Ln. 6).

Claim 1:

Claim 1 is directed to a system for controlling a data network, including: means for receiving a plurality of quality of service requests that each correspond to one of a plurality of microflows, (Specification, P. 4, Lns. 1-10 and Fig. 1, reference S); control means for controlling one or more elements of said data network, (Specification, P. 4, Ln. 32 to P. 5, Ln. 10 and Fig. 2, reference AC); and means for correlating the quality of service requests so as to define at least one set of a plurality of correlated microflows, (Specification, P. 4, Lns. 11-31 and Fig. 2, reference CD); wherein the control means effects said control of said elements of said data network only once for the quality of service requests of each said set, (Specification, P. 7, Lns. 1-31); and each said set comprises a plurality of microflows whose corresponding quality of service requests are correlated, (Specification, P. 4, Lns. 8-31).

Claim 9:

Claim 9 is directed to a control device of a data network, (Fig. 2, reference CD), including: means for receiving a plurality of quality of service requests that each correspond to one of a plurality of microflows, (Specification, P. 4, Lns. 1-10 and P. 6, Ln. 15-30); means for communicating with an admission controller for reserving the required resources within said data network, (Specification, P. 6, Ln. 31 to P. 7, Ln. 1); wherein the control device comprises means for correlating the quality of service requests so as to define at least one set of a plurality of correlated microflows, (Specification, P. 4, Lns. 11-31 and P. 6, Ln. 24-30); and the control device transmits a single resource reservation request to the admission controller for the quality of service requests of each said set, (Specification, P. 7, Lns. 1-3 and 19-21); and each said set comprises a plurality of microflows whose corresponding quality of service requests are correlated, (Specification, P. 4, Lns. 8-31).

Claim 14:

Claim 14 is directed to an admission controller associated with a domain of a data network, (Fig. 2, reference AC), including: means for receiving a single resource reservation request for the quality of service requests of each of at least one set of a plurality of correlated microflows, (Specification, P. 7, Lns. 1-3 and 19-21), each quality of service request corresponding to one of a plurality of microflows, (Specification, P. 4, Lns. 4-7, each said set comprising a plurality of microflows whose corresponding quality of service requests are correlated, (Specification, P. 4, Lns. 8-31), and control means for controlling elements of said domain, (Specification, P. 4, Ln. 32 to P. 5, Ln. 10 and Fig. 2); wherein the admission controller further comprises means for communicating said single resource reservation request for each

said set to an admission controller associated with a second domain of said data network,

(Specification, P. 7, Lns. 1-31).

Claim 2:

Claim 2 is directed to a control system according to claim 1, wherein each said microflow comprises a 5-tuple and the correlation is effected by comparing the 5-tuples of said microflows,

(Specification, P. 4, Lns. 13-19).

Claim 10:

Claim 10 is directed to a control device according to claim 9 wherein each said microflow comprises a 5-tuple and the correlation is effected by comparing the 5-tuples of said microflows. (Specification, P. 4, Lns. 13-19).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

There are four issues on Appeal.

The first issue is whether claims 1, 5-7, 9, 12, and 14 are improperly finally rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Oosthoek *et al.* (US Patent Pub. No. 2002/0156599; hereinafter "Oosthoek").

The second issue is whether claims 2-4, 10, and 11 are improperly finally rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Oosthoek, in view of Bolding *et al.* (US Patent No. 7,272,651; hereinafter "Bolding").

The third issue is whether claims 8 and 13 are improperly finally rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Oosthoek, in view of Mohaban *et al.* (US Patent No. 6,788,647; hereinafter "Mohaban").

The fourth and final issue is whether claims 1-14 are improperly finally rejected under 35 U.S.C. § 112, second paragraph, as allegedly omitting essential structural cooperative relationships of elements.

VII. ARGUMENT

Appellant respectfully requests the Board to reverse the final rejections of the claims pending in the application for at least the following reasons.

I. Claims 1, 5-7, 9, 12, and 14 are patentable over Oosthoek

The Examiner rejected claims 1, 5-7, 9, 12, and 14 under 35 U.S.C. § 102(e) as allegedly being anticipated by Oosthoek. Appellant respectfully submits that these grounds of rejection are technically inaccurate, and are in error, as explained by the following remarks.

Claim 1 is not anticipated by Oosthoek

To be an "anticipating" reference in a rejection under 35 U.S.C. § 102, the reference must teach every element and recitation of the Appellant's claims. Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. Thus, **the reference must clearly and unequivocally disclose every element and recitation of the claimed invention**. MPEP § 2131.

Appellant respectfully submits that Oosthoek fails to teach or suggest every element and recitation of the claimed invention.

In particular, Appellant respectfully submits Oosthoek does not teach or suggest, at least: "means for receiving a plurality of quality of service requests that each correspond to **one of a plurality of microflows**; … and means for correlating the quality of service requests so as to define at least **one set of a plurality of correlated microflows**; wherein the **control means effects said control of said elements of said data network only once for the quality of service requests of each said set**; and each said set comprises a plurality of microflows **whose corresponding quality of service requests are correlated**", as recited therein.

Oosthock discloses a system which combines features of RSVP (which controls nodes per microflow) and Diffserv (which controls nodes per aggregate) to manage QoS reservations within a network. In the Diffserv control per aggregate system, each microflow is assigned a pre-defined Class of Service and the nodes of the data network handle the microflows based on the class of service assigned to the microflows rather than based on the individual microflows.

Oosthock uses RSVP management at the ingress and egress nodes, and Diffserv management at the intermediate nodes. Thus, within the network, the interior nodes do not manage/track individual flows and simply operate as if under a Diffserv management scheme. (Oosthock, para. [0020]).

Based on this, the Examiner alleges that in Oosthock, "although the microflows are tracked individually (at the ingress nodes), the interior nodes only see the reservation requests which specifies the aggregated state. Therefore, the interior nodes are controlled only once for the set of microflows covered by the aggregated reservation request." (Advisory Action, P. 2). Appellant respectfully disagrees with the Examiner's assertion.

Regardless of whether the interior nodes ***know*** about each particular microflows being handled, **Oosthoek clearly teaches that the interior nodes are *controlled* for each new microflow's reservation request and for the termination of each microflow.** In particular, Oosthock states that "while the method maintains an aggregated *reservation state*, it still **allows per microflow changes to the reservation** without keeping [an] explicit state per microflow [in the interior of the network]. Since **parts** of the aggregated reservation state ***can be established, maintained and released***, it is not necessary to store any ***identity*** of the resource request." (Oosthock, para. [0009]). In a more explicit description, Oosthock states, "The ingress node gets

a reservation request (e.g. using a **per microflow reservation protocol** like RSVP) and translates the reservation request into a resource request for the interior network. The reservation request [for the particular microflow] specifies the aggregated state to which it pertains [**and**] **specifies the number of resource units u to be reserved in the interior network for the particular microflow associated with the request**. The reservation is carried out by sending a resource request through the interior network 20 to the egress node 18. In the intermediate interior nodes, the request is processed and, provided the resources are available, **a change in the specified aggregated reservation state is made**" and when a "particular microflow . . . terminate[s] . . . the aggregated state will be reduced by the amount of units u reserved **for the particular microflow**." (Oosthoek, para. [0020]-[0023]).

As such, Appellant respectfully submits that, regardless of whether the interior nodes ***know*** about the particular microflow, it is clear from the above that Oosthoek teaches ***controlling*** the nodes for **each microflow**. As such, Appellant respectfully submits that Oosthoek fails to teach or suggest "the control means effects said control of said elements of said data network **only once** for the quality of service requests of each said **set**" of microflows.

In the Examiner's response of January 15, 2009, the Examiner further alleges that "Given [claim 1's] broadest reasonable interpretation … a scenario could reasonable be contemplated wherein the elements have to be controlled again should another quality of service request be received for a newly received set of microflows. This scenario is anticipated by Oosthoek". (Final Office Action of January 15, 2009, P. 8). Even assuming *arguendo* that the Examiner's assertion is correct, Appellant respectfully submits Oosthoek does not disclose or suggest claim 1, notwithstanding the Examiner's assertion.

Claim 1 recites that "the control means effects said control … **only once** for the quality of service requests **of each said set**." Furthermore, "each set comprises a plurality of microflows whose corresponding quality of service requests are correlated."

The Examiner, in making this rejection, posited a scenario in which a "set" of microflows is newly received. The Examiner's scenario does not implicate the patentability of any of the claims, because a new "set" of microflows has to be interpreted in accordance with the express language of the claim. Each set of microflows is independent. The claim does not require that the control is performed only once for all time and forever, including new sets of flows.

In other words, under the scenario contemplated by the Examiner, the new "set" of microflows would trigger control means to effect control **only once** for the quality service requests **of the new set** of microflows. Previously serviced sets would have still been controlled "only once for the quality of service requests of each set", as recited in claim 1. Thus, the scenario contemplated by the Examiner does not implicate the patentability of claim 1 vis-à-vis the teachings of Oosthock. Oosthock clearly lacks the above-mentioned requirements of independent claim 1 and cannot be said to anticipate nor render obvious the claim.

Accordingly, Appellant submits that the Examiner's rejection should be reversed as clear error for each of the above reasons. Oosthock fails to anticipate independent claim 1 under 35 U.S.C. § 102(e), because it does not disclose each and every element of the claim.

With respect independent claims 9 and 14, Appellant respectfully submits that these claims are also patentable over Oosthock for at least the same or similar reasons as those above regarding claim 1.

Appellant therefore respectfully requests the Examiners to withdraw this rejection of claims 1, 9, 12/9, and 14.

II. Claims 2-4, 10, and 11 are patentable over Oosthoek in view of Bolding

Claims 2-4, 10, and 11, which depend from claims 1 and 9 respectively, are each rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Oosthoek in view of Bolding. Appellant respectfully requests the Board to reverse these grounds of rejection at least in view of the following comments.

It is respectfully submitted that Bolding fails to cure the deficiencies of Oosthoek discussed above for claims 1 and 9, and accordingly, claims 2-4, 10, and 11, which depend from claims 1 and 9 respectively, are patentable over the asserted combination of Oosthoek and Bolding at least by virtue of their dependency from independent claims 1 and 9.

Further, Appellant respectfully submits that the individual recitations of claims 2 and 10 are not taught or suggested by the cited combination of references.

Specifically, Appellant respectfully submits that the cited references fail to teach or suggest at least the following highlighted recitations of claim 2 as it depends from claim 1:

> **wherein each said microflow comprises a 5-tuple and the correlation is effected by comparing the 5-tuples of said microflows**

In the Office Action, the Examiner conceded that Oosthoek fails to teach or suggest the recitations of claim 2. However, the Examiner asserted that Bolding supplements for this conceded deficiency. In particular, the Examiner cited the bare teaching of Bolding of a reading a 5-tuple of a microflow to identify the microflow in order to make a request for a Differentiated Services Codepoint for the microflow (in other words, to obtain the Class of Service parameters

for the microflow). (Final Office Action of January 15, 2009, P. 5, and Bolding, Col. 11, Lns. 5-27).

However, Appellant respectfully submits that the mere identification of a single microflow using its 5-tuple to obtain QoS parameters cannot teach or suggest **correlating a plurality of microflows based on the 5-tuple**. **Specifically, there is no teaching or suggestion of comparing the obtained 5-tuple of the microflow to 5-tuples of other microflows in order to correlate the plurality of microflows to form a set of microflows for which the elements of a data network will be controlled only once.** As such, Appellant respectfully submits that there is no basis for asserting that the teaching of Bolding would lead the skilled artisan to modify the system of Oosthoek as suggested by the Examiner.

As such, for at least these additional reasons, Appellant respectfully submits that claim 2 would not have been rendered obvious by the Examiner's proposed combination.

Accordingly, Appellant respectfully requests that the Examiner withdraw the rejection of claims 2 and 10, which recites similar limitations and claims 3 and 11 at least by virtue of their dependency from claims 2 and 10, respectively.

III. Claims 8 and 13 are patentable over Oosthoek in view of Mohaban

Claims 8 and 13, which depend from claims 1 and 9 respectively, are each rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Oosthoek in view of Mohaban. Appellant respectfully requests the Board to reverse these grounds of rejection at least in view of the following comments.

It is respectfully submitted that Mohaban fails to cure the deficiencies of Oosthoek discussed above for claims 1 and 9, and accordingly, claims 8 and 13, which depend from claims

1 and 9 respectively, are patentable over the asserted combination of Oosthoek and Mohaban at least by virtue of their dependency from independent claims 1 and 9.

IV. Rejections Under 35 U.S.C. § 112, second paragraph

Claims 1-14 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly omitting essential structural cooperative relationships of elements. Appellant respectfully submits that these grounds of rejection are technically inaccurate, and are in error, as explained by the following remarks.

The Examiner alleges that claims 1-14 omit essential structural cooperative relationships of elements. In particular, the Examiner indicates that the specification does not disclose what the recited "means for receiving," "control means," and "means for communicating" comprise (see Final Office Action of January 15, 2009, P. 2). Appellant respectfully requests that the Examiners reconsider the rejection at least in view of the following comments.

Appellant respectfully submits that claims 1-14 are patent-eligible under 35 U.S.C. § 112 for the reasons submitted in the Amendment filed September 9, 2008. Appellant further notes that the specification explicitly states exemplary embodiments of the above quoted means.

First, "the disclosure of the structure . . . may be implicit or inherent in the specification if it would have been clear to those skilled in the art what structure . . . corresponds to the means-[]plus function claim limitation." (*See* MPEP 2181(II) and *In re Dossel*, 115 F.3d 942, 946-47 (Fed. Cir. 1997)). In *In re Dossel*, the Federal Circuit stated:

> Clearly, a unit which **receives** digital data, **performs** complex mathematical computations and **outputs** the results **. . . must be implemented by or on a general or special purpose computer (although it is not clear why the written description does not simply state 'computer' or some equivalent phrase.)**

(*Id.*) In the present application, Appellant respectfully submits that it would have been equally clear to those skilled in the art that the "means for receiving", "control means", and "means for correlating" of claim 1, and the "means for receiving" and "means for communicating" of claims 9 and 14 "must be implemented by or on a general or special purpose computer" even assuming *arguendo* that this is not be explicitly stated in the specification.

Further, Appellant respectfully submits that the specification is not devoid of exemplary, non-limiting examples of structure which would have further allowed those of skill in the art to reach the conclusion that the claimed means "must be implemented by or on a general or special purpose computer". In particular, the specification gives such non-limiting examples at least on pages 1, 2, 6 and 7. Finally, in view of the disclosure as a whole, Appellant respectfully submits that the disclosure of structure is "implicit or inherent in the specification [because] it would have been clear to those skilled in the art what structure . . . corresponds to the means-[]plus function claim limitation[s]."

Second, as stated above, the specification explicitly states exemplary embodiments of the above quoted means.

For example, with respect to "control means," the specification discloses: "under the 3GPP standards, the control device may be a proxy call session control function (P-CSCF) as described in the technical specification '3GPP TS 23.225'" (Specification, P. 7, Lns. 2-6).

Furthermore, with respect to "means for receiving" and "means for communicating," the specification discloses: "In one embodiment of the invention, the admission controller AC and the control device CD may communicate by means of the COPS protocol as defined in RFC 2748 of the Internet Engineering Task Force (IETF)" (Specification, P. 7, Lns. 7-11).

In view of the disclosure as a whole, and further in view of the specific portions referenced above, Appellant respectfully submits that the disclosure of structure is express, even though not word-for-word. Even if the support is not considered to be express by the Examiner, it is certainly at least "implicit or inherent in the specification [because] it would have been clear to those skilled in the art what structure . . . corresponds to the means-[]plus function claim limitation[s]." (*See* MPEP 2181(II) and *In re Dossel*, 115 F.3d 942, 946-47 (Fed. Cir. 1997)).

Accordingly, Appellant submits that the Examiner's rejection should be reversed as clear error for each of the above reasons.

VIII. CONCLUSION

The USPTO is directed and authorized to charge the statutory fee (37 C.F.R. §41.37(a) and 1.17(c)) and all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: September 28, 2009

CLAIMS APPENDIX

CLAIMS 1-14 ON APPEAL:

1. A system for controlling a data network, comprising:

means for receiving a plurality of quality of service requests that each correspond to one of a plurality of microflows;

control means for controlling one or more elements of said data network; and

means for correlating the quality of service requests so as to define at least one set of a plurality of correlated microflows;

wherein the control means effects said control of said elements of said data network only once for the quality of service requests of each said set; and

each said set comprises a plurality of microflows whose corresponding quality of service requests are correlated.

2. A control system according to claim 1, wherein each said microflow comprises a 5-tuple and the correlation is effected by comparing the 5-tuples of said microflows.

3. A control system according to claim 2, wherein each said 5-tuple of said microflows comprises an address of a sender and an address of an addressee and the correlation is effected by comparing the addresses of the sender and the addressee.

4. A control system according to claim 1, wherein said control means comprises a software module remote from said correlation means and communicating therewith by means of a communication protocol.

5. A control system according to claim 1, wherein said network elements may be monitored atomically.

6. A control system according to claim 1, wherein the control means are adapted to perform admission control prior to controlling said network elements.

7. A control system according to claim 1, wherein the control means effects said control such that said correlated reservation requests share the same bandwidth.

8. A control system according to claim 1, wherein the control means are adapted to anticipate microflows of return packets and to consider them to determine the correlated resource reservation requests.

9. A control device of a data network , comprising:

means for receiving a plurality of quality of service requests that each correspond to one of a plurality of microflows;

means for communicating with an admission controller for reserving the required resources within said data network,

wherein the control device comprises means for correlating the quality of service requests so as to define at least one set of a plurality of correlated microflows; and

the control device transmits a single resource reservation request to the admission controller for the quality of service requests of each said set; and

each said set comprises a plurality of microflows whose corresponding quality of service requests are correlated.

10. A control device according to claim 9 wherein each said microflow comprises a 5-tuple and the correlation is effected by comparing the 5-tuples of said microflows.

11. A control device according to claim 10, wherein each said 5-tuple of said microflows comprises an address of a sender and an address of an addressee and the correlation is effected by comparing the addresses of the sender and the addressee.

12. A control device according to claim 9, wherein said correlated quality of service requests may share the same bandwidth.

13. A control device according to claim 9, wherein the control device anticipates return microflows and considers them for determining the correlated quality of service requests.

14. An admission controller associated with a domain of a data network, comprising:

means for receiving a single resource reservation request for the quality of service requests of each of at least one set of a plurality of correlated microflows, each quality of service request corresponding to one of a plurality of microflows, each said set comprising a plurality of microflows whose corresponding quality of service requests are correlated, and control means for controlling elements of said domain, wherein the admission controller further comprises means for communicating said single resource reservation request for each said set to an admission controller associated with a second domain of said data network.

EVIDENCE APPENDIX:

None

RELATED PROCEEDINGS APPENDIX

None

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SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
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Sir:

Submitted herewith please find an Appeal Brief. The USPTO is directed and authorized to charge the statutory fee of $540.00 and all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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